

(19) World Intellectual Property
Organization
International Bureau



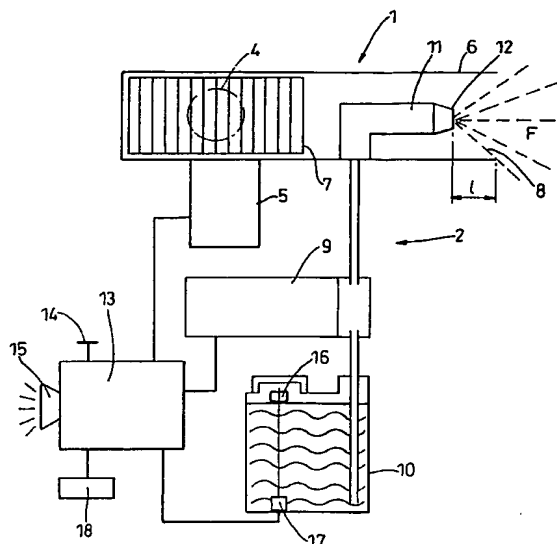
(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/053978 A1

- (51) International Patent Classification⁷: **B60H 3/02**, B05B 7/12
- (21) International Application Number: PCT/GB2004/004799
- (22) International Filing Date: 17 November 2004 (17.11.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0328003.9 3 December 2003 (03.12.2003) GB
- (71) Applicant (for all designated States except US): **QUILL INTERNATIONAL INDUSTRIES PLC** [GB/GB]; Castle Lane, Melbourne, Derbyshire DE73 1DY (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **DORE, David, James** [GB/GB]; Quill International Industries Plc, Castle Lane, Melbourne, Derbyshire DE73 1DY (GB).
- (54) Title: A MIST-SPRAYING APPARATUS
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]



(57) Abstract: A mist-spraying apparatus primarily but not exclusively for use in an enclosed space comprises an air-blowing means (1), a spraying means (2) and a control means (13). The air-blowing means (1) defines an outlet conduit (6) through which air can be blown into the space and an inlet conduit (7) through which air from within the space can be drawn for blowing through the outlet conduit (6) to circulate within the space. The spraying means (2) comprises a pump (9) for delivering liquid from a reservoir (10) to an atomizing nozzle (11) for spraying into the space in the form of an atomized mist. The atomizing nozzle (11) is located within the outlet conduit (6) so that atomized particles emitted by the atomizing nozzle (11) are entrained in the airstream emitted by the air-blowing means (2) and thereby distributed evenly throughout the space. The control means (13) controls operation of the air-blowing means (1) and the spraying means (2) and is adapted to commence operation of the air-blowing means (1) prior to operation of the atomizing nozzle (11) and to continue operation of the air-blowing means (1) after operation of the nozzle (11) has ceased in order to continue circulation of the air and any atomized particles entrained therein around the space for a predetermined period of time.